

WHAT IS CLAIMED IS:

1. A connectors-integrated directional coupler comprising:

a housing having an input connector integrally extended from one end of the
5 housing and an output connector integrally extended from the other end of the
housing;

a main line connecting the input connector to the output connector for
delivering a signal; and

a coupling line for inducing the signal from the main line thereto.

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2. The connectors-integrated directional coupler of claim 1, wherein
the coupling line comprises a coupling port at one end thereof for outputting power
induced from the main line.

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3. The connectors-integrated directional coupler of claim 1, wherein
the housing further comprising an elongated hole extending from the input connector
to the output connector for accommodating the main line therein.

4. The connectors-integrated directional coupler of claim 3, wherein
20 the housing further comprises a planar mounting surface having at least two coupling
holes at an outer circumferential surface of the housing for mounting the coupling
line thereon.

5. The connectors-integrated directional coupler of claim 1, wherein the coupling line is a microstrip line.

6. The connectors-integrated directional coupler of claim 1, wherein
5 the main line comprises:
a main bar; and
sub-bars integrally extending from both ends of the main bar.

7. The connectors-integrated directional coupler of claim 2, further
10 comprising a planar cover having a port hole from which the coupling port protrudes
for covering a top surface of the coupling line and closely fixing the coupling line to
the housing.

8. The connectors-integrated directional coupler of claim 1, further
15 comprising:
a fixing groove formed to a predetermined depth on the outer circumferential
surface of the output connector;
a fixing ring fit around the fixing groove, protruding to a predetermined
height from the outer circumferential surface of the first connector; and
20 a hollow cover opened at both ends thereof and engaged with the first
connector so that the hollow cover is rotatable around the first connector.

9. The connectors-integrated directional coupler of claim 8, wherein the hollow cover comprises screw threads formed on the inner circumferential surface thereof to allow the hollow cover to be engaged with an external signal line.

5 10. The connectors-integrated directional coupler of claim 1, wherein the input connector comprises screw threads formed on the outer circumferential surface thereof.

11. The connectors-integrated directional coupler of claim 1, further
10 comprising one or more Teflon support members fixed in the elongated hole of the housing, spaced from each other by a predetermined distance.

12. The connectors-integrated directional coupler of claim 11, wherein the Teflon support members provide an electrical isolation between the housing and
15 the main line.

13. The connectors-integrated directional coupler of claim 11, wherein each of the Teflon support members having a through hole formed coaxially with the elongated hole of the housing to allow the main line to extend therethrough.

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14. The connectors-integrated directional coupler of claim 11, wherein a plurality of the Teflon support members is formed on the inner wall of the through hole of the housing to determine the positions of the Teflon support members.

5 15. The connectors-integrated directional coupler of claim 11, wherein one of the Teflon support members is spaced from the end of the input connector by a predetermined distance.

16. The connectors-integrated directional coupler of claim 11, further
10 comprising a support member holder, the support member holder including:

a holder fixed to the end of the output connector for preventing the Teflon support member from being out of place from the elongated hole of the housing;

a guide extending from the holder toward the end of the output connector;

and

15 a guide hole penetrating the holder and an end of the guide for exposing the main line therefrom.

17. The connectors-integrated directional coupler of claim 15, further comprising a gasket attached to one end of the holder, covering the outer
20 circumferential surface of the guide and extending in a diameter direction of the guide.